Hierarchical Clustering:

Hierarchical clustering is a type of clustering algorithm used in data analysis and machine learning. It's a method of grouping similar data points into clusters or groups based on their pairwise similarities. The result of hierarchical clustering is often represented as a tree-like diagram called a dendrogram, which shows the relationships between the data points and how they are grouped together.

**Agglomerative Hierarchical Clustering:**

This approach starts with each data point as its own cluster and then progressively merges or "agglomerates" the closest clusters into larger ones. At each step, the algorithm determines the distance between clusters and merges the two closest clusters until all data points belong to a single cluster. This process creates a hierarchy of clusters.

**Divisive Hierarchical Clustering:**

In contrast to agglomerative clustering, divisive hierarchical clustering starts with all data points in a single cluster and then recursively divides or "divides" the clusters into smaller ones. This process continues until each data point is in its own cluster, forming a hierarchical structure.